II. Amendments to claims 1, 9 and 16, new claim 29 and withdrawal of claims 21-28

Support for "wherein the patient experiences pain after the intake of acute pain medication" in amended claims 1, 9 and 16 is described and can be found at least in the narrative at page 9, lines 1-4 of the specification.

Support for new claim 29 can be found at least at page 9, lines 2-5 of the specification.

Applicants maintain the previously submitted assertion (reply of March 3, 2006) that claims 21-28 should be examined in the instant case. The Office Action maintains that claims 21-28 are drawn to an invention that is independent or distinct from the invention originally claimed (see page 2 of the Office Action). However and solely in order to expedite prosecution, claims 21-28 are hereby cancelled in the instant application without prejudice or disclaimer to further prosecution at a later date.

III. Provisional rejection of claims 1-20 under the judicially created doctrine of obviousness-type double patenting

The Office Action provisionally rejected claims 1-20 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 in co-pending Application No. 11/039,506.

Applicants traverse this rejection and submit that the instant claims are not obvious over claims 1-17 in co-pending Application No. 11/039,506. There is an important distinction between the two set of claims, in the two applications, that must be made clear in order to appreciate the differences between the claim sets.

The claims in co-pending Application No. 11/039,506 are directed to a particular subgroup of a patient population (triptan medication overuse patients) and are directed to methods for *treating a headache*, whereas the instant claims are *not* directed to methods for treating a headache, but rather to methods for treating *a particular specific disorder*, namely acute pain medication overuse disorder. Accordingly the two claim sets are not obvious over one another. That is, the instant claims are directed to methods to treat *a disorder* wherein the patient suffers from a disorder that results in and *causes* a pain, such as a headache pain, and is *elicited* by the ingestion of acute pain medication. The patient's disorder (overuse of acute pain medication) *causes* the ingestion of medication that causes the pain (for example, a headache). Bearing this in mind, the instant claims are not directed to treating a pain (such as a headache, for example) *per se*, but rather a disorder in which a pain, such as a headache, is a *symptom* of the actions (medication intake/overuse) taken by a patient suffering from the acute pain medication overuse disorder.

Acute pain medication overuse disorder is a nefarious disorder, where a sort of "self fulfilling prophesy" plays out, where a patient that at one time took acute pain medication to treat a pain, such as a headache pain, now experiences pain, such as a headache, for example, that is now *caused by and due to the ingestion of the acute pain medication itself*. That is, there is a clear distinction between pain caused by ingestion of acute pain medication in a patient having an

acute pain medication disorder, and patients that do not have the disorder, wherein acute pain medication is ingested to treat a pain, such as a headache, where the pain is not caused by the ingestion of the acute medication but by some other underlying condition.

Accordingly, the instant claims direct to methods for treating an acute pain medication overuse disorder (*not headache*) are not obvious in light of claims in co-pending Application No. 11/039,506 that are directed to methods for treating a headache in a particular patient population.

Thus, this rejection should be withdrawn.

IV. The Invention

It is important to understand the claimed invention. The claimed invention is limited to the treatment of an acute pain medication overuse disorder, an example of which is a medication overuse headaches. This is a specific disorder with known characteristics and symptoms. Significantly, a patient with the acute pain medication disorder may not be in any pain, that is may not have a headache. This disorder is characterized by the seminal feature that the patient takes an excess of an acute pain treatment medication even though the patient is not experiencing any pain at the time he takes the medication, for example, and a pain, such as a headache, results from ingestion of acute pain medication in *anticipation* of, *rather* than *for* a pain (page 2, lines 7-9 of the specification). This has been noted particularly in patients that suffer from medication overuse headache, a type of acute pain medication overuse disorder, where pre-emptive use of drugs in anticipation of (no pain at the time of medication ingestion) rather than for a headache pain they are experiencing (see page 883, fourth full paragraph, right-hand col. in TJ Steiner, M. Fontebasso; BMJ Vol. 325; Oct 19, 2002 pages 881-886, attached). The patient thus has a disorder, not necessarily any pain.

Importantly, the very act of a patient who has the acute pain medication disorder dosing himself with the medication results in acute pain (e.g. sudden onset of a severe headache) (page 2, lines 7-9 of the specification). That is the nature of this disorder, which appears to have addictive, irrational aspects. Thus, the acute pain medication disorder sufferer takes an excessive amount of acute pain mediation, even preemtivly, even though he or she may not be in any pain at that time and even though the sufferer's acute pain medication self-dosing by itself results in pain (i.e. sudden onset of a severe headache).

The inventors discovered and the claims in this application are directed to and limited to local administration of a botulinum toxin to treat this disorder.

IV. Rejection of claims 1-20 under 35 U.S.C. 112, 1st paragraph

The Office Action has rejected claims1-20 under 35 U.S.C. 112 1st paragraph, because the specification, while being enabling for a method for treating acute pain medication overuse disorder comprising administering up to 260 units of botulinum toxin to a patient in need of such treatment does not reasonably provide enablement for a method for treating acute pain medication overuse disorder comprising administering about 3000 units of botulinum toxin to a patient in need of such treatment. Applicants traverse this rejection.

Respectfully, Applicants assert that all of the pending claims are fully enabled by the specification. The Office Action states that the specification *is* enabling for a method for treating acute pain medication overuse disorder comprising administering up to 260 units of botulinum toxin to a patient in need of such treatment (Office Action, page 4, paragraph 6).

It appears that the Office Action is stating that the only enabled treatment methods are those described in the Example section of the specification (260 units is disclosed in the Example on page 42, line 27 of the specification). That is, the difference between what is enabled and not enabled, according to the Office Action, is the particular recitation of an amount of botulinum toxin, or lack of a recitation of a particular amount of botulinum toxin, that is recited/administered in an Example section of the specification. Such a finding is improper.

Respectfully, the absence of examples does not necessarily render the instant written description inadequate to support claimed methods for treating a acute pain medication overuse disorder by administering botulinum toxin to a patient in need thereof, including administering about 3000 units of botulinum toxin, if so needed.

As recently stated this year by the Federal Circuit, "*A claim will not be invalidated on section 112 grounds simply because the embodiments of the specification do not contain examples explicitly covering the full scope of the claim language*. That is because the patent *specification is written for a person of skill in the art, and such a person comes to the patent with the knowledge of*

what has come before. Placed in that context, it is *unnecessary to spell out every detail* of the invention in the specification;", emphasis ours, (*Falker-Gunter Falkner v. Inglis* (Fed. Cir. 2006, 05–1324) 79 USPQ2d 1001, 1007 (copy attached). It is not necessary or even desirable that an inventor provide an example of every possible embodiment that falls within the full scope of the claim language, which is what the Office Action appears to require in making this rejection.

The instant specification provides several examples of ranges of useful botulinum toxin dosages that can be administered in accordance with the teachings of the disclosure, in order to guide the practitioner. For example, administration of between about 1 unit to about 3000 units of a botulinum toxin is disclosed (page 30, lines 2-4 of the specification). Many exemplary, useful ranges of botulinum toxin administration, such as about 1 to about 125 units of botulinum toxin type A, about 40 units to about 1500 units of botulinum toxin type B are further detailed in the specification (page 34, line 31 to page 35 line 25).

The instant specification clearly provides support for and enables one of ordinary skill in the art to practice all of the methods encompassed by the claims, that is, generally, to treat an acute pain medication overuse disorder by administering botulinum toxin to a patient in need thereof. Respectfully, the state of the art regarding the safe and efficacious administration of botulinum toxin to humans includes the administration of *tens of thousands* of units of botulinum toxin. Respectfully, the disclosures cited on pages 5 and 6 of the Office Action only relate to the administration of a particular serotype of botulinum toxin, type A.

For example and as known in the art, botulinum toxin has been shown to be safely administered in doses up to 25,000 units, depending on the serotype of the botulinum used (see attached Mov Disord 2002: 17(5):1142). As known in the art and as sufficiently disclosed in the specification, various types of botulinum toxins can be utilized in varying amounts, based upon, for example the toxin type utilized, characteristics of the acute pain medication overuse disorder (headache pain/severity) and size, weight, age of the patient and responsiveness

to therapy, solubility characteristics of the neurotoxin, all well known parameters that are known to those of ordinary skill in the art and can be determined on a case by case basis (patient by patient) (see page 41, lines 4-18 of the specifcation). Clearly the teachings of the present application do not limit the invention to the administration of particular dosages in the Example section, as the Example is simply a particular embodiment provided in accordance with the teachings of the present invention. Clearly, it would be improper to limit the scope of the claims to define the invention within parameters of a particular embodiment.

Therefore, one of ordinary skill in the art, having the present disclosure in hand and knowing what has come before, would clearly be enabled to administer botulinum toxin to treat an acute pain medication disorder, caused by overuse of acute pain medication, at any efficacious dosages that the person of ordinary skill in the art would deem appropriate in light of the teachings of the instant specification and not just the examples (i.e. limited to administration of 260 units), to thereby treat the acute pain medication disorder caused by overuse of acute pain medication.

Thus, this rejection should be withdrawn.

V. Rejection of claims 13-3, 10-17, 19 and 20 under 35 U.S.C. 102(a)

The Office Action rejected claims 13-3, 10-17, 19 and 20 under 35 U.S.C. 102(a) as being anticipated by Schim (Current Medical Research and Opinion, Vol. 20, No.1, January 2001, p. 49-53). Applicants traverse this rejection.

Schim discusses botulinum toxin administration resulting in a reduction in usage of acute pain medication taken by the subject patients to treat their migraine headaches (Title/Abstract). Schim does not teach or suggest treatment of an acute pain medication overuse disorder wherein the pain experienced by the patient is caused by overuse of acute pain medication (all claims). The conclusions reached in Schim show that botulinum administration could result in substantial savings in cost of acute pain medications (page 49, Summary). There is no teaching or suggestion in Schim that the headaches suffered by the patient's were caused by the intake of medication but rather that some of the patients had "analgesic overuse". However there is no clear indication that these patients suffered from acute pain medication overuse disorder, but rather only "refractory chronic migraine" (study 3) for which they utilized analgesics to treat.

Furthermore, the instant independent claims have been amended to include the limitation wherein the patient experiences pain **after** the intake of acute pain medication, to clearly distinguish the claims as amended from the Schim disclosure. Such a limitation is not found in Schim and thus Schim cannot anticipate the instant claims.

Additionally, each of the dependent claims also recite this limitation, as well as additional limitations that are not disclosed in Schim, such as, for example, wherein a headache frequency of the patient is greater than 15 days per month after the intake of analgesics or ergots more than 15 times per month for at least 3 months (claim 29). Thus, each of the dependent claims is also not anticipated by Schim.

Thus, this rejection should be withdrawn.

VI. Rejection of claims 1-20 under 35 U.S.C. 102(a)

The Office Action rejected claims 1-20 under 35 U.S.C. 102(a) as anticipated by Tepper et al. (Cephalagia, 2003, 581-762) (hereinafter "Tepper"). Applicants traverse this rejection.

Tepper discusses botulinum toxin administration in the preventative treatment of refractory headaches (treatment of refractory headaches in patients that are medication overusers as well as non-overusers). Tepper does not teach or suggest methods for treating patients suffering from an acute pain medication overuse disorder, where the patient experiences pain after the intake of acute pain medication, as presently claimed. The instant independent claims have been amended to include this limitation where the patient experiences pain after the intake of acute pain medication, to more particularly point out certain aspects of the invention and distinguish the claims from the Tepper disclosure. Such a limitation or suggestion of use of botulinum toxin to treat an acute medication overuse disorder is not found in Tepper and thus Tepper cannot anticipate the instant claims.

Additionally, each of the dependent claims also recite this limitation, as well as additional limitations that are not disclosed in Tepper, such as, for example, wherein the headache frequency of the patient is greater than 15 days per month after the intake of analgesics or ergots more than 15 times per month for at least 3 months (claim 29). Thus, each of the dependent claims is also not anticipated by Tepper.

Thus, this rejection should be withdrawn.

VII. Rejection of claims 1-20 under 35 U.S.C. 102(b)

The Office Action rejected claims 1-20 under 35 U.S.C. 102(b) as anticipated by Matthew et al. (Headache 2002, 42; 454 Abstract S107) (hereinafter "Matthew"). Applicants traverse this rejection.

Matthew discloses the treatment of patients with refractory chronic migraine, not treatment of patients that suffer from an acute pain medication overuse disorder caused by overuse of acute pain medication. While it is stated that some of the treated patients suffering from refractory chronic migraine had "analgesic overuse", and all had high acute medication intake in spite of detoxification from analgesics and appropriate prophylactic therapy, it is clear that the administration of botulinum toxin is to treat "patients with refractory chronic migraine" (Aim section) and not to treat a disorder, that is, acute pain medication overuse disorder caused by overuse of acute pain medication, where the patient experiences pain after the intake of acute pain medication, as presently claimed. In fact, in the conclusion section of Matthew, it is stated that "Botulinum toxin type A in selected patients with chronic migraine appears to modify the disorder, reducing the disability and acute medication use", that is, to modify chronic migraine.

As stated above, the instant independent claims have been amended to include the limitation where the patient experiences pain after the intake of acute pain medication, to clearly point out and distinguish the claims over this reference. Such a limitation is not found in Matthew and thus Matthew cannot anticipate the instant claims. Additionally, each of the dependent claims also recite this limitation, as well as additional limitations that are not disclosed in Matthew, thus each of the dependent claims is also not anticipated by Matthew.

Thus, this rejection should be withdrawn.

VIII. Rejection of claims 1-20 under 35 U.S.C. 102(b)

The Office Action has rejected claim 1-20 under 35 U.S.C. 102(b) as being anticipated by Blumenfeld (Headache, 2002; 42:420, Abstract F20). Applicants traverse this rejection.

As indicated in the conclusion section of Blumenfeld, this study analyzes the use of botulinum toxin injections for the treatment of intractable headaches and associated reductions in medication cost. There is no disclosure that botulinum toxin is or can be used *specifically* for treating an acute pain medication overuse disorder caused by overuse of acute pain medication. Medication overuse headache is simply one type of headache lumped into and with the other headache types (combination headache, migraine, unknown, tension) suffered by the patients in the study, in which botulinum toxin injections are given to all headache-type sufferers.

In particular, there is no disclosure or suggestion to be found in Blumenfeld to treat a disorder, that is, acute pain medication overuse disorder caused by overuse of acute pain medication, where the patient experiences pain after the intake of acute pain medication, by administration of botulinum toxin as presently claimed. Blumenfeld points out, in the objective section, that the study is limited to assessment of the benefit of botulinum toxin administration for treatment of intractable chronic headache and to measure impact of treatment on medication costs. As such, Blumenfeld cannot anticipate the instant claims.

Thus, this rejection should be withdrawn.

IX. Conclusion

All issues raised in the Office Action have been addressed. Reconsideration and allowance of claims 1-20 is requested.

The Commissioner is hereby authorized to charge any fee(s) required or necessary for the filing, processing or entering of this paper or any of the enclosed papers and to refund any overpayment to deposit account 01-0885.

Respectfully submitted,

/Claude L. Nassif/

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Attached: *Falker-Gunter Falkner v. Inglis* (Fed. Cir. 2006, 05–1324) 79 USPQ2d 1001.

Mov Disord 2002: 17(5):1142.

TJ Steiner, M. Fontebasso; BMJ Vol. 325; Oct 19, 2002 pages 881-886.